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noted, as for example the well known restriction of *Camptosorus rhizophyllus* to the vicinity of limestone cliffs.

When the effects of the geological formation on the distribution of plants and the relations between them are better known, it will certainly facilitate the efforts of the collector by directing him to localities where the geological formation is similar to that of known districts, and where he may reasonably infer that the flora will be also in keeping; provided, of course, that there is not too great a diversity in climate and physiographic conditions.

Within a radius of perhaps 50 miles it would be reasonable to expect that similar geological conditions would afford similar floras.

Port Richmond, S. I. ARTHUR HOLLICK.

[As regards *Camptosorus* we may state that, according to our own observations, the plant is not exclusively calcicolous; it is not rare in the Hudson River Valley on the slates and shales of the Hudson River Group. And we may say the same of *Asplenium Ruta-muraria ;* which also is usually described as one of the lime-rock ferns.—EDS.]

Setaria glauca, Beauv. and **S. viridis,** Beauv.—Last Summer I collected indiscriminately, and from many localities, specimens of *Setaria.* During this Winter I analyzed about 15 of them under the microscope and found only *one* specimen of the *S. viridis !*—Is the *S. glauca* so much the commoner of the two, or was this only accidental ?

A. H.

§ 7. Bryological Notes, by C. F. AUSTIN.

Sphagnum macrophylum, BERNHARDI *Var.* **Floridanum,** AUST. —Differs from the typical form, as described and figured in Sulliv. Icon. p. 1. t. I., and as represented in various exsiccati, in its lurid green, or often albescent color ; but chiefly in the areolae of the leaves being about twice as long and furnished with 40–70 *extremely minute pores, in two rows.*—A remarkable var. Hab. Florida.

Sphagnum cuspidatum, EHRT., *Var.* **serratum,** AUST.—*Sphagnum serratum,* AUST., this Journal, vol. vi., p. 245 ; also Musc. Appalach. Suppl n. 453.—Specimens collected by Capt. Smith about Lake Harris, Fla., last spring, show pretty conclusively that this is only a remarkable form of *Sph. cuspidatum ;* only the leaves on the uppermost branches being decidedly serrate.

Bruchia Sullivanti, AUST., *Var.* **microtheca.**—Form and texture of the leaves normal ; but the plants are much smaller than usual. The capsule is about half the usual size and of a fine light brown color, with a remarkably short collum usually passing insensibly into the pedicel, which is geniculate when moist and straight when dry. Sporangium round-oval, twice the length of the collum. Spores among the smallest of the genus, or about 1-1,000 of an inch in diameter, *not papillose but very minutely granulose.* Inflorescence for the most part antoicous, Hampden Co. Va. Apr., 1878. J. D. S.

DONNELLIA, nov. gen.

Donnellii Floridana, AUST., *Fabronia Donnellii,* AUST., *in Bot. Gazette,* vol. ii., p. 111.—" Folis oblongo-lanceolatis strictiusculis nonnunquam submarginatis obsolete serrulatis fere ecostatis, cellulis perangustis, basilaribus majoribus subquadratis inflatis ; capsula ovali subincurva vacua sub ore constricta, peristomii dentibus 16 majusculis siccis subhorizontaliter incurvis humidis erectis apice leniter recurvis, articulatiionibus dorso valde prominentibus; autoica; fl. masc. parvo juxta femineum posito.

Hab. On the branches of a Live Oak, Florida, Feb. 1877, *Capt. John Donnell Smith.*

Mode of growth and form of capsule much as in *Hypnum microcarpum*, C. M., but smaller in all its parts, with narrower and more narrowly reticulated leaves not recurved on the margin, the inflated cells at the basal angles more numerous, peristome single, &c.—Remarkable for the prominent articulations of the peristomal teeth.

RAUIA, nov. gen.

Rauia scita, Aust.—*Hypnum scitum*, Beauv., Prod. p. 69; Aust. *Musc. Appalach. n.* 300; also this Journal, vol. v., p. 3.—*Thuidium Appalachiani*, Aust., Mss.

Modus vegetandi, folii formis et textura ut in *Thuidio*, sed capsula peristomiaque leskeoidea.

Thuidium Alleni, *n. sp.*—Caule erecto vel depresso fasciculatim innovando bipinnatim ramuloso dense paraphyllato; foliis siccis crispatis, humidis latissime ovatis concavis brevissime subacuminulatis obtusis vel acutis planis vel subsulcatis, margine minutissime papillato-crenulata pro more plana, costa valida fere ad apicem continua, basi auriculata subdecurrente, cellulis minutissimis plerumque distinctis rotundiusculis minute unipapillosis, basilaribus vix majoribus; ramulis inferioribus brevibus laxis flexuosis eparaphyllatis, foliis minutis valde concavis ovatis obtusis, costa tenuiore et paullo breviore; superioribus majoribus strictis paucissime brevissime paraphyllatis, foliis cum caulinis subconfoimibus; paraphylliis longis simplicibus vel parce divisis geniculatis; floribus et fructu ignotis.

Hab. In a peat swamp near New Haven, Conn., Jan. 1880, *Mr. John Allen.* Communicated by *Prof. O. F. Allen* of the Sheffield Scientific School. Resembles *Thuidium minutulum* (Hedw.), but is much larger. At a casual glance it would be apt to be mistaken for *Elodium paludosum*, Sulliv. But that is never bipinnate, has leaves acutely acuminate with longish cells, which are often not papillose, &c. It gives me great pleasure to be able to dedicate so fine a species to the Allens, father and son. They have recently sent me ample specimens of some very rare mosses, all in the finest condition. Among these is *Trichodon nodulosum*, Aust.

§ 8. **Cheilanthes vestita,** Swartz.—Mr. Chas. N. Arnold has sent us from Poughkeepsie a number of specimens of *Cheilanthes vestita*, Willd., gathered near that city by Mr. Clarence Lown. A note from Mr. Lown states that this fern was first detected by him growing on the rocks in the vicinity of the river in April, 1877. Afterwards, in September of the same year, he found it again growing luxuriantly on the rocks at New Paltz Landing, just south of the ferry dock, and opposite Poughkeepsie. The only other known station in New York for this fern is Washington Heights, where it was detected some years ago by Mr. Denslow. As Mr. C. H. Peck remarks, Poughkeepsie will doubtless prove its northern limit in this State.

§ 9. **Trichomanes radicans,** Swz.—Mrs, F. J. Harlow has sent